

DEPARTMENT OF THE AIR FORCE
Headquarters US Air Force
Washington DC 20330-1000

CFETP 15WX
Parts I and II
October 2003

AFSC 15WX/A

Weather Officer



“Exploit The Weather For Battle”

**CAREER FIELD EDUCATION
AND TRAINING PLAN**

**CAREER FIELD EDUCATION AND TRAINING PLAN
WEATHER SPECIALTY
AFSC 15WX/A**

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OPR: 335 TRS/TRR (Mr. David A. Waninger)

Approved by: HQ AF/XOWR

 ROBERT J. RIZZA, Lt Col, USAF

 Air Force Career Field Manager for Weather

Supersedes: CFETP 15WX/A March 1999

Distribution: F

**WEATHER SPECIALTY
AFSC 15WX/A
CAREER FIELD EDUCATION AND TRAINING PLAN**

Part I

Preface

1. This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document that identifies life-cycle education and training requirements, training support resources, and minimum requirements for this specialty. This CFETP will provide personnel a clear career path to success and will instill rigor in all aspects of career field training for weather officers.

2. The CFETP consists of two parts. Supervisors and Operational Weather Squadron Training Flights use both parts to plan, manage, and control training within the career field.

2.1. Part I provides information necessary for overall management of the specialty. Section A explains how everyone will use the plan; Section B identifies career field progression information, duties, and responsibilities; Section C associates each level with specialty qualifications (knowledge, education, and training); and Section D indicates resource constraints.

2.2. Part II includes the following: Section A identifies the Course Training Standard (CTS), technical references to support training, Air Education and Training Command (AETC) conducted training, and correspondence course requirements. Section B identifies a training course index supervisors can use to determine resources available to support training. Included here are both mandatory and optional courses; Section C identifies available support materials. An example is a Qualification Training Package (QTP), which may be developed to support proficiency training. Section D identifies MAJCOM unique training requirements supervisors can use to determine additional training required for the associated qualification needs. Sections C and D are not used in this CFETP.

3. Using guidance provided in the CFETP will ensure officers in the 15WX specialty receive effective and efficient training at the appropriate points in their career. At the unit level, supervisors and trainers will use Part II to identify, plan, and conduct training commensurate with the overall goals of this plan. **NOTE:** They will also use part II to support position qualification training for civilians in similar duty positions.

Abbreviations and Terms Explained

Air Force Career Field Manager (AFCFM). Functional community manager for all matters related to the training and utilization of individuals within a particular AFSC.

Air Force Job Qualification Standard/Command Job Qualification Standard (AFJQS/CJQS). A comprehensive task list, which describes a particular job type or duty position. They are used by supervisors to document task qualifications. The tasks on AFJQS/CJQS are common to all persons serving in the described duty positions.

Air Force Specialty (AFS). The basic grouping of positions requiring similar skills and qualifications.

Allocation Curves. The relation of hours of training in different training settings to the degree of proficiency, which can be, achieved on specified performance requirements.

Career Field Education and Training Plan (CFETP). A CFETP is a comprehensive, multipurpose document encapsulating the entire spectrum of education and training for a career field. It outlines a logical growth plan that includes training resources and is designed to make career field training identifiable, to eliminate duplication, and to ensure this training is budget defensible.

Career Training Guide (CTG). A document that uses Task Modules in lieu of tasks to define performance and training requirements for a career field.

Continuation Training (CT). Additional training to maintain and improve job proficiency.

Core Task. A task that Air Force career field managers identify as a minimum qualification requirement within an Air Force specialty or duty position.

Course Training Standard (CTS). Establishes the training requirements using tasks, knowledge, and proficiency levels for a formal course and provides the basis for the development of more detailed training materials, training objectives, and training evaluation instruments for the course.

Exportable Training. Additional training via computer assisted, paper text, interactive video, or other necessary means to supplement training.

Field Technical Training (Type 4). Special or regular on-site training conducted by a field training detachment or by a mobile training team.

Initial Skills Course. A formal resident course attended upon entry into the weather career field (AFSC 15W1).

Instructional System Development (ISD). A deliberate and orderly, but flexible process for planning, developing, implementing, and managing instructional systems. It ensures personnel are taught in a cost efficient way the knowledge, skills, and attitudes essential for successful job performance.

Occupational Survey Report (OSR). A detailed report showing the results of an occupational survey of tasks performed within a particular AFS.

On-the-Job Training (OJT). Hands-on, over-the-shoulder training conducted to certify personnel in both upgrade (skill level award) and job qualification (duty position certification) training.

Operational Weather Squadron (OWS). A regional/theater weather center responsible for in-depth weather support to operations within its AOR.

Optimal Training. The ideal combination of training settings resulting in the highest levels of proficiency on specified performance requirements within the minimum time possible.

Qualification Training (QT). Actual hands-on task performance training designed to qualify an individual in a specific duty position. This portion of the dual channel on-the-job training program occurs both during and after the upgrade process. It is designed to provide the performance skills required to do the job.

Qualification Training Package (QTP). An instructional package designed for use at the unit to qualify, or aid qualification, in a duty position or program, or on a piece of equipment. It may be printed, computer-based, or in other audiovisual media.

Representative Sites. Typical organizational units having similar missions, weapon systems or equipment, or a set of jobs, used as a basis for estimating average training capacities and costs within the Training Impact Decision System (TIDES).

Resource Constraints. Resource deficiencies, such as money, facilities, time, manpower, and equipment that preclude desired training from being delivered.

Special Experience Identifier (SEI). A USAF classification tool that identifies experience and/or training not otherwise identified in the Personnel Data System.

Specialty Training Standard (STS). An Air Force publication that describes skills and knowledge that airmen in a particular Air Force specialty need on the job. It further serves as a contract between the Air Education and Training Command and the user to show the overall training requirements for an Air Force specialty code that the formal schools teach.

Task Module - (TM). A group of tasks performed within an Air Force specialty that are performed together and that require common knowledge, skills, and abilities. TMs are identified by an identification code and statement.

Training Requirements Analysis. A detailed analysis of tasks for a particular AFS to be included in the training decision process.

Utilization and Training Workshop (U&TW). A forum of Air Force, MAJCOM, and Field Operating Agency (FOA) AFS functional managers; subject matter experts (SMEs); and AETC training personnel that establish career ladder training requirements.

See AFI 36-2201, Vol 5, for a listing of additional standard definitions

Section A - General Information

1. Purpose. This CFETP provides the information necessary for Air Force Career Field Managers (AFCFM), MAJCOM Functional Managers (MFM), training management, supervisors and trainers to plan, develop, manage, and conduct an effective and efficient career field training program. The plan outlines the training that individuals in the 15WX career field should receive in order to develop and progress throughout their career. For purposes of this plan, training is divided into entry level, qualification, upgrade, and continuation training. Entry-level training is the 15WX specific initial skills' training an individual receives upon entry into the Air Force. Normally, this training is conducted by AETC at Keesler AFB. The QT is actual hands-on task performance training designed to both expand knowledge and understanding, while qualifying an individual in a specific duty position. Continuation training is additional training provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade. In addition, the weather career field requires selected individuals to pursue advanced academic degrees (AAD) to meet job requirements. An AAD can be obtained through the graduate education program offered by the Air Force Institute of Technology (AFIT), or by obtaining 30 hours of graduate level meteorology courses at an accredited university. In addition to obtaining an AAD in traditional meteorology, the option exists to obtain an AAD in space sciences by obtaining 30 semester hours of graduate work in aeronomy at an accredited university.

2. Use. MFM and supervisors at all levels will use this plan to ensure a comprehensive and cohesive training program is available for each individual in the specialty.

2.1. AETC training personnel will develop and revise formal resident, non-resident, field and exportable training based upon requirements established by the users and documented in Part II of this CFETP. They will also work with the AFCFM to develop acquisition strategies for obtaining resources needed to provide the identified training.

2.2. MFMs will ensure their training programs complement the CFETP's mandatory initial, upgrade, and continuation training requirements. OJT, resident training, contract training, or Distance Learning (DL) courses can satisfy identified requirements. MAJCOM-developed training to support the 15WX/A AFSC may be identified for inclusion into the plan.

2.3. Each individual will complete the mandatory training requirements specified in this plan. The list of courses in Part II will be used as a reference to support training.

3. Coordination and approval. The Weather Functional Manager (AF/XOW) is the approval authority. MAJCOM representatives and AETC training personnel, in coordination with dedicated Air Force Weather Agency (AFWA) training personnel, will identify and coordinate on the career field training requirements. The AETC training manager for 15WX will initiate an annual review of this document by AETC and MFMs to ensure currency and accuracy. Using the list of courses in Part II, they will eliminate duplicate training.

Section B - Career Progression and Information.

4. Specialty Description. See AFI 36-2105, attachment 12.

4.1. **Specialty Summary.** See AFI 36-2105, attachment 12.

4.2. **Duties and Responsibilities.** See AFI 36-2105 attachment 12.

5. Skill and Career Progression. Adequate training and timely progression from the entry level to the qualified level plays an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training do their part to plan, manage, and conduct an effective training program. The guidance provided in this part of the CFETP will ensure each individual receives viable training at appropriate points in their career.

5.1. **Entry Level (15W1).** Upon meeting the mandatory education requirements described in AFM 36-2105, the officer will be awarded the 15W1 classification and normally will be sent to the Weather Officer's Initial Skills Course (WOC) prior to arrival at his/her first duty station. ANG weather officers will normally attend the WOC after assignment to their first weather duty location.

5.2. **Qualified Level (15W3).** Upon meeting the mandatory requirements described in AFM 36-2105, the officer will be awarded the 15W3 classification.

5.3. **Staff Level (15W4).** Upon meeting the mandatory requirements described in AFM 36-2105, the officer will be awarded the 15W4 classification.

5.4. **Advanced Academic Degree Suffix (A).** Award of the suffix is contingent upon meeting all requirements for award as defined in AFM 36-2105.

6. Training Decisions. The core of this CFETP evolves around a building block approach (simple to complex) to encompass the entire spectrum of training requirements for the 15WX career field. The spectrum includes a strategy for when, where, and how to meet the training requirements. The strategy must take full advantage of all modes of training opportunities yet minimize duplication of training

6.1. Entry Level. The Weather Officer Course (WOC) will provide the entry-level weather officer with practical skills and knowledge to complement his/her academic work in weather concepts and theory. Instructional topics include forecasting techniques, the weather support system, forecast reasoning, wartime weather support, OWS operations, OWS system application, Next Generation Weather Radar (NEXRAD), Tropical Meteorology, Meteorological Satellite (METSAT), and career development. Thus, the WOC is specifically tailored to the needs of the weather officer. The ultimate goal is to provide a well-rounded weather officer who is useful to the operational community, is well versed in weather operations, has the technical forecasting skills to assist operational decision makers, and is fully prepared with a foundation of knowledge to which formal Qualification Training can expand upon.

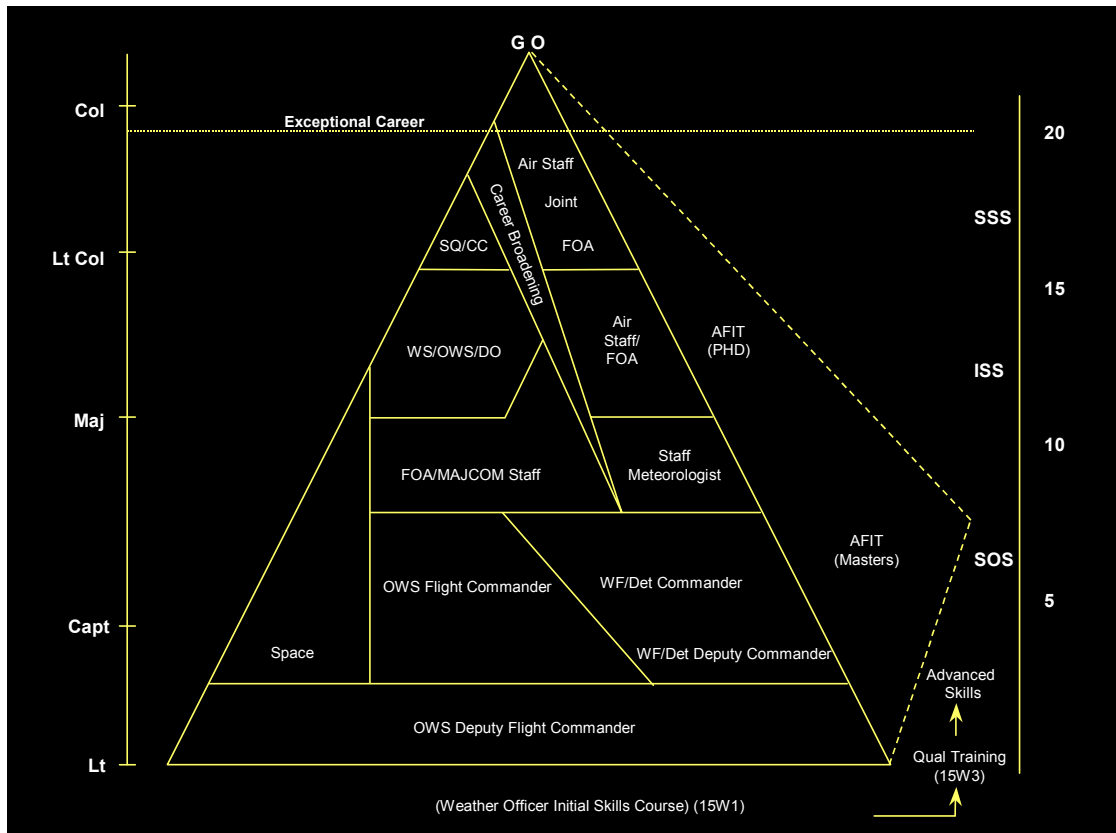
6.2. OWS Qualification Training (QT). The meteorological and weather application skills taught in the WOC are expanded and advanced through standardized OWS QT. This QT occurs at the officer's initial assignment to an OWS. While serving at an OWS, they will follow the guidelines of the OWS Qualification Training Master Training Plan (MTP). This MTP has key objectives and is administered through a combination of formal course work and hands-on mentorship. The course work includes a combination of Qualification Training Packages (QTPs), Technical References, and other meteorological training tools that cover the objectives of QT MTP. Under the supervision of a dedicated trainer, the course work material is administered with formal hands-on application, reinforcing the subject matter and maximizing training effectiveness. Distance Learning (DL) tools and Computer-Based Training will be used as appropriate. The QT is finalized with position level certification, ensuring the officer is prepared for his or her duties within an OWS (ex. Deputy Flight CC and Flight CC).

6.3. Combat Weather Team officer course. The Combat Weather Team officer course is a prerequisite for an assignment at a Weather Flight (WF). This course will improve the officer's ability to provide tactical weather support, which in turn will enhance the warfighter's decision-making process and ability to conduct operations. The officer will be instructed in specific WF value-added support tasks that provide the warfighter the tactical advantages based on knowledge of impacts of weather on friendly and threat forces.

6.4. WF/Det Qualification Training. The meteorological and weather application skills taught in the Combat Weather Team (CWT) Officer Course will be expanded and advanced through WF/Det Qualification Training (QT). The WF/Det QT occurs at the officer's initial WF/Det assignment. While serving at the WF/Det, they will follow the guidelines of the WF/Det QT Master Training Plan (MTP). This MTP has key objectives and is administered through a combination of formal course work and hands-on mentorship. The course work will include a combination of Qualification Training Packages (QTPs), Technical References, local references and training plans, and other training tools that cover the objectives of QT MTP. Although much of the material is standard across AFW, local mission-unique requirements will be covered.

6.5. Continuation Training. Any additional knowledge or skill requirements not taught in the WOC, QT, CWT officer course, or MAJCOM-specific job QT will be met by continuation training. This type of training provides instruction on a variety of mission or theater-unique subjects, refresher training, or introduction of new knowledge or techniques affecting military weather support. It is provided through a variety of training media. Continuation training includes, but is not limited to; the training listed in Part II, Section A, of this plan.

7. Career Path.



Section C - Proficiency Training Requirements

8. Purpose. Proficiency training requirements in this career field are defined in terms of tasks and knowledge requirements. This section outlines the specialty qualification requirements for entry, award, and retention of each 15WX level. The specific task and knowledge training requirements are identified in the Course Training Standard (CTS) and Training Course Index within Part II, Section A and B of this CFETP.

9. Specialty Qualification:

9.1. Entry Level Training (15W1).

9.1.1. **Specialty Qualification.**

9.1.1.1 **Knowledge.** See AFI 36-2105.

9.1.1.2 **Education.** See AFI 36-2105.

9.1.2. **Training Resources.** The WOC will be implemented by AETC at their designated location. All new weather officers will enroll in QT upon the successful completion of the WOC.

9.1.3. **Implementation.** This is a learning stage for officers. All weather officers will attend the WOC prior to their first operational assignment on active duty. Upon completion of the WOC, the officer will be assigned to an OWS. *Note: Officers may be given a WOC attendance waiver if they were previously a fully qualified weather forecaster or officer in an active duty or ANG weather unit. Waivers will be processed through and approved by HQ USAF/XOWR.*

9.2. **Qualified Level Training (15W3).**

9.2.1. **Specialty Qualification.**

9.2.1.1. **Knowledge.** See AFI 36-2105.

9.2.1.2. **Training.** See AFI 36-2105.

9.2.1.3. **Experience.** See AFI 36-2105.

9.2.2. **Training Resources.** Dedicated trainers will be used during the OWS QT. The OWS MTP will be used to prepare trainees for position qualification and the certification checkride. The QT will be implemented by the OWS training flight.

9.2.3. **Implementation.** Throughout this stage for officers, the fundamentals of weather forecasting and support remain a priority. In addition, the aspects of technical leadership and forecast processes are expanded. Officers with a 15W3 classification will continue to receive hands-on production experience as part of their Deputy Flight Commander duties. They will also receive experience performing duties such as NAF support, meteorological coordination, planning, metrics, resource management, and Flight Commander.

9.3. **Staff Level Training (15W4).**

9.3.1. **Specialty Qualification.**

9.3.1.1. **Knowledge.** See AFI 36-2105.

9.3.1.2. **Training.** See AFI 36-2105.

9.3.1.3. **Experience.** See AFI 36-2105.

9.3.2. **Training Resources.** Not used.

9.3.3. **Implementation.** Not used.

9.4. **Advanced Academic Degree Suffix (A).**

9.4.1. **Specialty Qualification.**

9.4.1.1. **Knowledge.** See AFI 36-2105.

9.4.1.2. **Education.** See AFI 36-2105.

9.4.1.3. **Training.** Not used.

9.4.1.4. **Experience.** See AFI 36-2105.

Section D - Resource Constraints

10. Purpose. This section identifies known resource constraints that preclude optimal and desired training from being developed or conducted, including information such as cost and manpower.

10.1. **Entry Level Training:** None.

10.2. **Qualified Level Training:** None.

10.3. **Staff Level Training:** None.

PART II

Section A - Course Training Standards

1. Purpose. Course Training Standards (CTSs) serve dual purposes. They provide insight on the exact subject matter content of the courses and they are used to standardize weather training in order to meet all AFW officer-training requirements.

2. Recommendations. Comments and recommendations are invited concerning quality of AETC training. Reference this CTS and address correspondence regarding changes to 81 TRG/TGET, 825 Hercules, Suite 101, Keesler AFB MS 39534-2037. A Training Feedback Hotline has been installed for the supervisor's convenience to identify unsatisfactory performance of individual graduates or to identify graduates who may have received over or under training on task/knowledge items listed in this training standard. For quick response to problems, call our Training Feedback Hotline, DSN 597-4566, anytime day or night (FAX DSN 597-3790 or e-mail 81trg-tget@keesler.af.mil). Identify the specific area of concern (paragraph, training standard element, etc.).

WEATHER OFFICER

1. Implementation of training in support of this CTS is with class beginning 20030415 and graduating 20030723.

2. Purpose. This course training standard:

a. Establishes the training requirements using tasks, knowledge, and proficiency levels for course E3OBR15W1 002, Weather Officer.

b. Provides the basis for the development of more detailed training materials, training objectives, and training evaluation instruments for the course.

3. Course Description. This course provides training for Air Force officers, AFSC 15W1, in the knowledge and skills necessary to perform the duties of a Weather Officer. The scope of training includes career development; concepts of observing weather elements; decoding meteorological reports; weather analysis and prognosis; weather support systems; wartime weather support; operations of an Operational Weather Squadron (OWS); WSR-88D, Doppler Radar; meteorological satellite (METSAT); Space Environment; and concepts of weather communications.

4. Qualitative Requirements. Attachment 1 contains the task, knowledge, and proficiency levels referenced in paragraph 2. Dual codes for knowledge and/or tasks indicate that the item cannot be trained to that level due to resource constraints. Those items indicate the established requirement followed by a slash mark (/) and the level that can be obtained until resources are available, for example: 2b/A.

5. Recommendations. Comments and recommendations are invited concerning quality of AETC training. Reference this CTS and address correspondence regarding changes to 81 TRG/TGET, 825 Hercules, Suite 101, Keesler AFB MS 39534-2037. A Training Feedback Hotline has been installed for the supervisor's convenience to identify unsatisfactory performance of individual graduates or to identify graduates who may have received over or under training on task/knowledge items listed in this training standard. For quick response to problems, call our Training Feedback Hotline, DSN 597-4566, anytime day or night (FAX DSN 597-3790 or e-mail 81trg-tget@keesler.af.mil). Identify the specific area of concern (paragraph, training standard element, etc.).

THOMAS L. FOSSEN, Colonel, USAF
Commander

1 Atch
Qualitative Requirements

Supersedes CTS E3OBR15W1 002, December 2000
Prepared by: 335 TRS/TRRA
Approved by and Date: HQ USAF/XOWR, 3 April 2002
Distribution: F (Continued on page 2)

QUALITATIVE REQUIREMENTS

PROFICIENCY CODE KEY		
	SCALE VALUE	DEFINITION: The Individual
TASK PERFORMANCE LEVELS	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task.
	2	Can do most parts of the task. Needs help only on hardest parts. (PARTIALLY PROFICIENT)
	3	Can do all parts of the task. Needs only a spot check of completed work. (COMPETENT)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task.
* TASK KNOWLEDGE LEVELS	a	Can name parts, tools, and simple facts about the task. (NOMENCLATURE)
	b	Can determine step by step procedures for doing the task. (PROCEDURES)
	c	Can identify why and when the task must be done and why each step is needed. (OPERATING PRINCIPLES)
	d	Can predict, isolate, and resolve problems about the task. (COMPLETE THEORY)
**SUBJECT KNOWLEDGE LEVELS	A	Can identify basic facts and terms about the subject. (FACTS)
	B	Can identify relationship of basic facts and state general principles about the subject. (PRINCIPLES)
	C	Can analyze facts and principles and draw conclusions about the subject. (ANALYSIS)
	D	Can evaluate conditions and make proper decisions about the subject. (EVALUATION)
EXPLANATIONS		
<p>* A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Examples: b and 1b)</p> <p>** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks.</p> <p>- This mark is used alone instead of a scale value to show that no proficiency training is provided in the course.</p> <p>x This mark is used alone in course columns to show that training is required but not given due to limitations in resources.</p>		

Distribution: (Continued from page 1)

HQ AFWA/DNT	1
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HQ ANG/DOOSW	1
81 TRG/TGET	1
335 TRS/UOAA	6
335 TRS/TRRA	8

AETC FORM 60, JUL 93

REPLACES ATC FORM 60, WHICH IS OBSOLETE

CTS PROFICIENCY CODE KEY

QUALITATIVE REQUIREMENTS

Tasks, Knowledge, and Proficiency Level

Note: The same tasks/knowledge will be trained during the peacetime and wartime courses.

1. CAREER DEVELOPMENT

- | | |
|---|---|
| 1.1. Doctrine of Aerospace Weather Operations | B |
| 1.2. Assignment Roles and Responsibilities | |
| 1.2.1. Operational Weather Squadron (OWS) | B |
| 1.2.2. Weather Flight Operations | B |
| 1.2.3. Staff Positions | B |
| 1.2.4. Enlisted | B |
| 1.3. Career Progression Opportunities | B |

2. WEATHER SUPPORT SYSTEM

- | | |
|--|---|
| 2.1. Centralized Weather Support | |
| 2.1.1. Air Force Weather Agency (AFWA) | B |
| 2.1.2. Support Assistance Request (SAR) | B |
| 2.2. Regional Weather Support | B |
| 2.3. Weather Flight Support | B |
| 2.4. Joint Support | |
| 2.4.1. Policy | B |
| 2.4.2. Operations | B |
| 2.5. Interactions with other Services/Agencies | A |

3. WARTIME WEATHER SUPPORT

- | | |
|--|---|
| 3.1. Mobility Concepts | B |
| 3.2. Theater Battle Management | |
| 3.2.1. Intelligence Preparation of the Battlefield (IPB) | B |
| 3.2.2. Air Tasking Order (ATO) | B |
| 3.2.3. Battlefield Sensing | B |

4. WEATHER IMPACTS ON WEAPON SYSTEMS

- | | |
|-------------------------|---|
| 4.1. Land Operations | B |
| 4.2. Air Operations | B |
| 4.3. Sea Operations | B |
| 4.4. Special Operations | B |

5. CONCEPTS OF OBSERVING	A
6. DECODE METEOROLOGICAL REPORTS	
6.1. METAR	2b
6.2. Synoptic	2b
6.3. Pilot Report (PIREP)	2b
6.4. Upper Air	2b
6.5. Terminal Aerodrome Forecast (TAF)	2b
7. ANALYSIS AND PROGNOSIS	
7.1. Numerical Weather Prediction (NWP)	
7.1.1. Models	B
7.1.2. Initialize NWP Products	2b
7.1.3. Verify NWP Products	2b
7.2. Forecast Process (Funneling Process)	B
7.3. Climatology	
7.3.1. Physical characteristics of air masses	B
7.3.2. Regional Climatology Applied to Military Operations	B
7.3.3. Weather Regimes	B
7.3.4. Apply Climatology in Forecast Preparation	2c
7.4. Oceanography/Hydrology	B
7.5. Mid-latitude Weather Systems	
7.5.1. Vertical Consistency	B
7.5.2. Severe Weather	
7.5.2.1. Non-convective	B
7.5.2.2. Convective	B
7.6. Analyze	
7.6.1. Surface Charts	2c
7.6.2. Upper-air Charts	2c
7.6.3. Non-convective Severe Weather Parameters	2c
7.6.4. Convective Severe Weather Parameters	2c
7.7. Reanalyze Automated Produced Products	2c
7.8. Air Mass Sounding (Skew-T) Evaluation	C
7.9. Aviation Weather Hazard Forecasting	
7.9.1. Turbulence	B

7.9.2. Icing	B
7.10. Prepare	
7.10.1. Terminal Aerodrome Forecasts (TAF)	2b
7.10.2. Weather Watches	2b
7.10.3. Weather Warnings	2b
7.10.4. Weather Advisories	2b
7.11. Encode Terminal Forecast	2b
7.12. Perform Meteorological Watch	2b
7.13. Prepare and Present Weather Briefings	
7.13.1. Aircrew	2b
7.13.2. Staff	2b
7.14. Conduct Meteorological Discussion	2b
7.15. Weather Sensitivities of Electro-optic Systems	B
7.16. Forecast Meteorological Events by Integrating All Available Data	2b

8. SPACE ENVIRONMENT

8.1. Concepts of Space Weather	B
8.2. Space Environmental Impacts on DOD and Other Operations	
8.2.1. Communications	B
8.2.2. Radar Operations	B
8.2.3. Satellite Operations	B
8.2.4. Optical Space Surveillance	B
8.2.5. Missile Warning	B
8.2.6. Navigation	B
8.2.7. Manned Flight	B
8.2.8. Geomagnetic Induced Currents	B
8.3. Space Environment Analyses	
8.3.1. Space Environment Indices	A
8.3.2. Space Environment Data	A
8.4. Space Environment Products	
8.4.1. Routine	B
8.4.2. Event	B
8.4.3. Joint USAF/NOAA	B
8.4.4. Support Assistance Request (SAR)	B
8.4.5. Apply Products to Operations	3c

9. OPERATIONAL WEATHER SQUADRON (OWS)

9.1. Analysis and Forecast Process	B
9.2. Weather Support Documents	B
9.3. Base/Post Operations	
9.3.1. Basic Flight Rules	A
9.3.2. Basic Flight Publications	A
9.3.3. Operational Weather Sensitivities	B
9.4. Computer Flight Plans	A
9.5. Support to Aircraft Mishap Boards	A

10. AUTOMATED FORECASTING TOOLS

10.1. Overview	B
10.2. Product Descriptions	B
10.3. Interpret Automated Forecasting Products	2b

11. WEATHER RADAR

11.1. Doppler Radar Theory	B
11.2. Radar System Concepts	B
11.3. Interpret Automated Doppler Radar Displays and Products	2b

12. METEOROLOGICAL SATELLITE (METSAT)

12.1. Principles and Systems Control	
12.1.1. Capabilities and Limitations of Satellite Systems	B
12.1.2. Data Display Techniques	B
12.2. Microwave Data Applications	
12.2.1. Algorithms and Derived Parameters	B
12.2.2. Displays and Applications	B
12.3. Satellite Imagery	
12.3.1. Systems	B
12.3.2. Imagery Features	B
12.3.3. Microwave Products	B
12.3.4. Relationships of Data to Meteorological Events	B
12.3.5. Depict Wind Flow	2b
12.4. Practical Application of Satellite Data	
12.4.1. Depict Wind Flow Using Streamlines on Satellite Data	2b
12.4.2. Interpret Meteorological Events Using Satellite Data	2b
12.4.3. Initialize NWP Products Using Satellite Data	2b

13. COMMUNICATIONS

- | | |
|--|----|
| 13.1. Organizational Structure of DoD/DCS C4 Systems | B |
| 13.2. Data Flow and Air Force Weather (AFW) | B |
| 13.3. Perform Pilot-to-METRO Service (PMSV) Contacts | 2b |

14. TROPICAL

- | | |
|--|---|
| 14.1. Structure of tropical weather systems | B |
| 14.2. Properties of tropical weather systems | B |

SUMMARY OF CHANGES

Incorporates Change 3. Item #8, Space Environment, has been expanded to train initial weather officers more in depth on space environmental impacts on DOD and other operations and space environment products. PDS code for course was changed to DAO due to a change in the Training Planning System that had gone unnoticed.

COMBAT WEATHER TEAM OFFICER

1. Implementation of training in support of this CTS is with class beginning 20011015 and graduating 20020117.

2. Purpose. This course training standard:

a. Establishes the training requirements using tasks, knowledge, and proficiency levels for course E3OAR15W3 000, Combat Weather Team Officer.

b. Provides the basis for the development of more detailed training materials, training objectives, and training evaluation instruments for the course.

3. Course Description. This group paced course provides mandatory training for officers in AFSC 15W3 who have been in the Air Force for three to four years prior to being assigned to a combat weather team. The weather impact on operations is covered including space, land warfare, air, and special operations. Special topics such as weather observations and equipment, tactical weather communications and decision aids, mission execution forecast process, weather systems management, and space are taught. This course is piggybacked with the weather enlisted course E3AAR1W051 002, Combat Weather Team Operations.

4. Qualitative Requirements. Attachment 1 contains the task, knowledge, and proficiency levels referenced in paragraph 2. Prerequisites: Must have been awarded a skill level of 15W3. Attachment 2 is the correlation of the 1W0X1 STS, May 2001 and this CTS.

5. Recommendations. Comments and recommendations are invited concerning quality of AETC training. Reference this CTS and address correspondence regarding changes to 81 TRG/TGET, 825 Hercules, Suite 101, Keesler AFB MS 39534-2037. A Customer Service Information Line (CSIL) has been installed for the supervisor's convenience to identify unsatisfactory performance of individual graduates or to identify graduates who may have received over or under training on task/knowledge items listed in this training standard. For quick response to problems, call our CSIL, DSN 597-4566, anytime day or night (FAX DSN 597-3790 or e-mail 81trg-tget@keesler.af.mil). Identify the specific area of concern (paragraph, training standard element, etc.).

JOHN R. BRYANT, Colonel, USAF
Commander

Attachments:

1. Qualitative Requirements
2. CTS/STS Correlation

Prepared by: 335 TRS/TRRA

Approved by and Date: HQ USAF/XOWR, 28 March 2001

Distribution: F (Continued on page 2)

QUALITATIVE REQUIREMENTS

PROFICIENCY CODE KEY		
	SCALE VALUE	DEFINITION: The Individual
TASK PERFORMANCE LEVELS	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task.
	2	Can do most parts of the task. Needs help only on hardest parts. (PARTIALLY PROFICIENT)
	3	Can do all parts of the task. Needs only a spot check of completed work. (COMPETENT)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task.
* TASK KNOWLEDGE LEVELS	a	Can name parts, tools, and simple facts about the task. (NOMENCLATURE)
	b	Can determine step by step procedures for doing the task. (PROCEDURES)
	c	Can identify why and when the task must be done and why each step is needed. (OPERATING PRINCIPLES)
	d	Can predict, isolate, and resolve problems about the task. (COMPLETE THEORY)
**SUBJECT KNOWLEDGE LEVELS	A	Can identify basic facts and terms about the subject. (FACTS)
	B	Can identify relationship of basic facts and state general principles about the subject. (PRINCIPLES)
	C	Can analyze facts and principles and draw conclusions about the subject. (ANALYSIS)
	D	Can evaluate conditions and make proper decisions about the subject. (EVALUATION)
EXPLANATIONS		
* A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Examples: b and 1b)		
** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks.		
- This mark is used alone instead of a scale value to show that no proficiency training is provided in the course.		
x This mark is used alone in course columns to show that training is required but not given due to limitations in resources.		

Distribution: (Continued from page 1)

HQ AFWA/DNT	1
HQ AFSAT/SDS	1
HQ USAF/XOWR	1
HQ ANG/DOOSW	1
81 TRG/TGET	1
335 TRS/UOAA	6
335 TRS/TRRA	8

QUALITATIVE REQUIREMENTS
Tasks, Knowledge, and Proficiency Level

Note: All items WILL BE TAUGHT in the wartime course.

1. WEATHER IMPACTS ON OPERATIONS

1.1. Space	A
1.2. Land warfare	A
1.3. Air	A
1.4. Special operations	A

2. WEATHER EQUIPMENT

2.1. Operate Fixed Meteorological Equipment	
2.1.1. Cloud height	2b
2.1.2. Visibility	2b
2.1.3. Wind	2b
2.1.4. Pressure	2b
2.1.5. Temperature and dew point	2b
2.1.6. Precipitation	2b
2.1.7. Lightning Detection System (LDS)	2b
2.2. Tactical Equipment	
2.2.1. GMQ-33, TMQ-34, TMQ-36, TMQ-53 (TR: Operator's Manuals)	
2.2.1.1. Set up and tear down	b
2.2.1.2. Operate	2b
2.2.2. Troubleshoot	b
2.2.3. Tactical automated sensors	A

3. TACTICAL WEATHER COMMUNICATIONS

3.1. Tactical communications architecture	B
3.2. High Frequency (HF)	
3.2.1. Radio-wave propagation	B
3.2.2. Antenna types	B
3.2.3. Antenna configuration	B
3.2.4. Radio Broadcast Frequencies (HFRB)	B
3.3. Satellite communications (VSAT)	
3.3.1. Set up	b
3.3.2. Operate	2b
3.3.3. Troubleshoot	b

4. TACTICAL DECISION AIDS

4.1.1. Produce	
4.1.1.1. Electro Optical (EOTDA)	2b
4.1.1.2. Night Vision Goggles	2b
4.1.1.3. Integrated Weather Effects Decision Aids (IWEDA) (WEW)	a
4.1.2. Atmospheric effects on electro-optical systems	C
4.1.3. Target Acquisition Systems	B
4.1.4. Precision Guided Munitions Operation	B

5. MISSION EXECUTION FORECAST PROCESS (MEFP)

5.1. Process	C
5.2. Apply climatology to mission forecast preparation	2b
5.3. Prepare and present weather briefings	2b
5.4. Tailored mission products	
5.4.1. Ground operations	B
5.4.2. Air operations	B
5.4.3. Amphibious	B

6. WEATHER OBSERVATIONS

6.1. Observe and evaluate	
6.1.1. Sky condition and clouds	2b
6.1.2. Visibility and runway visual range (RVR)	2b
6.1.3. Present weather and obstructions to vision	2b
6.1.4. Wind characteristics	2b
6.1.5. Barometric pressure	2b
6.1.6. Temperature and dew point	2b
6.1.7. Precipitation rate and amount	2b
6.2. Encode METAR observations	2b
6.3. Perform barometer comparisons	2b
6.4. Record summary of the day data	
6.4.1. Twenty-four hour operations	2b
6.4.2. Limited duty operations	2b
6.5. Chemical downwind messages	
6.5.1. Encode	2b
6.5.2. Decode	2b
6.6. Determine SPECI and LOCAL observation criteria	1a

7. TACTICAL WEATHER SITE

- | | |
|--|----|
| 7.1. Select site | B |
| 7.2. Create tactical visibility chart | 2b |
| 7.3. Observe and encode tactical weather observations | 2b |
| 7.4. Provide mission tailored tactical forecast products | 2b |

8. WEATHER SYSTEMS MANAGEMENT

- | | |
|--|----|
| 8.1. System configuration | B |
| 8.2. Establish network/communication connections | b |
| 8.3. Perform system manager functions | 2b |

9. SPACE

- | | |
|--------------------------------|----|
| 9.1. Effects on operations | C |
| 9.2. Effects on communications | C |
| 9.3. Apply products | 2b |
| 9.4. Decode bulletins | 2b |

CWT STS (MAY 01)/CTS (MAY 01) CORRELATION

STS (Sorted)

CTS (Sorted)

STS	CTS	L
4.8	6.6	1a
6.2.1	2.1.1	2b
6.2.2	2.1.2	2b
6.2.3	2.1.3	2b
6.2.4	2.1.4	2b
6.2.5	2.1.5	2b
6.2.6	2.1.6	2b
6.2.7	2.1.7	2b
6.3.1.1	2.2.1.1	b
6.3.1.2	2.2.1.2	2b
6.3.4	2.2.3	A
6.4	6.3	2b
6.7	2.2.2	b
7.2	3.1	B
7.3.1.1	3.2.1	B
7.3.1.2	3.2.2	B
7.3.1.3	3.2.3	B
7.3.1.4	3.2.4	B
7.3.2.1	3.3.1	b
7.3.2.2	3.3.2	2b
7.3.2.3	3.3.3	b
7.5.4	8.2	b
7.14	9.2	C
7.15.1	8.1	B
7.15.2	8.3	2b
9.2.1	6.1.1	2b
9.2.2	6.1.2	2b
9.2.3	6.1.3	2b
9.2.4	6.1.4	2b
9.2.5	6.1.5	2b
9.2.6	6.1.6	2b
9.2.7	6.1.7	2b
9.3.1	6.4.1	2b

9.3.2	6.4.2	2b
10.1.1	6.2	2b
10.1.8	6.5.1	2b
10.2.7	6.5.2	2b
10.2.13	9.4	2b
11.2.2	5.2	2b
12.1.3	4.1.2	C
14.2.1	5.4.1	B
14.2.2	5.4.2	B
14.2.3	5.4.3	B
14.4.13	5.2	2b
14.5	5.1	C
14.12.1	4.1.1.1	2b
14.12.2	4.1.1.2	2b
14.12.3	4.1.1.3	a
14.16	4.1.3	B
14.17	4.1.4	B
15.4	5.3	2b
18.4.1	1	A
19.2.1	7.1	B
19.2.2	7.2	2b
19.2.3	7.3	2b
19.5	7.4	2b
20.2	9.1	C
20.3.3	9.3	2b

STS	CTS	L
18.4.1	1	A
6.2.1	2.1.1	2b
6.2.2	2.1.2	2b
6.2.3	2.1.3	2b
6.2.4	2.1.4	2b
6.2.5	2.1.5	2b
6.2.6	2.1.6	2b
6.2.7	2.1.7	2b
6.3.1.1	2.2.1.1	b
6.3.1.2	2.2.1.2	2b
6.7	2.2.2	b
6.3.4	2.2.3	A
7.2	3.1	B
7.3.1.1	3.2.1	B
7.3.1.2	3.2.2	B
7.3.1.3	3.2.3	B
7.3.1.4	3.2.4	B
7.3.2.1	3.3.1	b
7.3.2.2	3.3.2	2b
7.3.2.3	3.3.3	b
14.12.1	4.1.1.1	2b
14.12.2	4.1.1.2	2b
14.12.3	4.1.1.3	A
12.1.3	4.1.2	C
14.16	4.1.3	B
14.17	4.1.4	B
14.5	5.1	C
11.2.2	5.2	2b
14.4.13	5.2	2b
15.4	5.3	2b
14.2.1	5.4.1	B
14.2.2	5.4.2	B
14.2.3	5.4.3	B

9.2.1	6.1.1	2b
9.2.2	6.1.2	2b
9.2.3	6.1.3	2b
9.2.4	6.1.4	2b
9.2.5	6.1.5	2b
9.2.6	6.1.6	2b
9.2.7	6.1.7	2b
10.1.1	6.2	2b
6.4	6.3	2b
9.3.1	6.4.1	2b
9.3.2	6.4.2	2b
10.1.8	6.5.1	2b
10.2.7	6.5.2	2b
4.8	6.6	1a
19.2.1	7.1	B
19.2.2	7.2	2b
19.2.3	7.3	2b
19.5	7.4	2b
7.15.1	8.1	B
7.5.4	8.2	b
7.15.2	8.3	2b
20.2	9.1	C
7.14	9.2	C
20.3.3	9.3	2b
10.2.13	9.4	2b

Section B - Training Course Index

3. Purpose. This section of the CFETP identifies available training courses for the specialty.

3.1. Entry Level Awarding Course.

<u>Course Number</u>	<u>Title</u>	<u>Days</u>	<u>Location</u>
E3OBR15W1 002	Weather Officer	70	Keesler AFB

3.2. Required Advance Course.

<u>Course Number</u>	<u>Title</u>	<u>Days</u>	<u>Location</u>
E3OAR15W1 000	Combat Weather Team Officer	60	Keesler AFB

3.3. Continuation Training Courses.

<u>Course Number</u>	<u>Title</u>	<u>Days</u>	<u>Location</u>
E3OZR15W3 023	NTFS System Manager	10	Keesler AFB
E5OSA15W3 001	Staff Weather Officer Army Indoctrination	20	Ft Huachuca
E3OZR15W3 002	Tropical Weather Analysis and Forecasting	16	Keesler AFB
E3OZR15W3 015	WSR-88D OPUP Operator/ Manager	24	Keesler AFB
E3OZR15W3A 000	Space Environment	15	Keesler AFB
E3OZR15W3A 002	Space Environment Forecaster	13	Keesler AFB

3.4. MAJCOM Unique Courses.

<u>Course Number</u>	<u>Title</u>	<u>Days</u>	<u>Location</u>
AMC AMOC	Air Mobility Operations Course (AMOC)	14	Ft Dix
AMC CWPC	Contingency Warfighter Planning (CWPC)	10	Maxwell AFB
AMC AOC	Air Operations Center (AOC) Orientation	5	Hurlburt Field
AMC AOC AMD	AOC Air Mobility Division (AMD) Orientation	3	Hurlburt Field
AFWA 2500	Solar Observing Optical Network (SOON) Operators	25	Holloman AFB
AFWA 2600	Radio Solar Telescope Network (RSTN) Operators	5	Holloman AFB
ANGWRTC 002	ANG Weather Flight Management Seminar	5	Camp Blanding
ANGWRTC 003	Weather Operations and Tactics	24	Camp Blanding
ANGWRTC 004	Tactical Weather Operations	12	Camp Blanding
ANGWRTC 010	Follow-on Training	120	Camp Blanding
ANGWRTC	NTFS Operators Course	5	Camp Blanding
	European Theater Weather Orientation (ETWO)	3	Sembach AB

3.5 Cooperative Program for Operational Meteorology, Education, and Training (COMET).

3.5.1. COMET is a cooperative program between the University Corporation for Atmospheric Research (UCAR), the National Oceanographic and Atmospheric Administration (NOAA), the Navy and the Air Force. AFW has been a partner for several years by contributing financial support and receiving training modules that address the needs of the operational forecaster. A hyperlink under other links to COMET's web site resides on the DNT web page <https://wwwmil.offutt.af.mil/afwadnt/>.

3.5.2. HQ AFWA/DNT distributes available COMET training modules. If you need a copy of a specific COMET module, please call DNT at DSN 271-9646 or e-mail Stanley.zlochen@afwa.af.mil.

Section C - Support Materials

NOTE: There are currently no support material requirements. This area is reserved.

Section D – MAJCOM Unique Requirements

NOTE: There are currently no MAJCOM unique requirements. This area is reserved.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

THOMAS E. STICKFORD, Brig Gen, USAF
Director of Weather
DCS/Air and Space Operations



"Choose The Weather For Battle"